

REMARKS/ARGUMENTS

Claims 1-18 are pending with Claims 12 and 14 having been amended.

The Examiner is rejecting Claims 1-11 and 18 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,342,320 (Cameron, hereinafter "Cameron"). In particular, the Examiner states:

...Cameron discloses an injection device (Figs. 8-11) comprising a: housing (24) having a proximate end (near 40) and a distal end (near 128), the distal end having an opening therein; a cartridge barrel with the housing (18/ please note that the claim language does not currently require that the cartridge barrel be a separate device/not connected to the housing), the cartridge barrel having proximate (near 126) and distal ends (near 102); a needle cannula fixed to the distal end of the cartridge barrel (20); a stopper within the cartridge barrel (76); a driver coupled to the stopper (12); a shield coupled to the housing (30/46/48) and slidable between a retracted (Figs. 8 and 9) and an extended position (Fig. 10); shield driver means activatable to urge the shield from the retracted position to the extended position (106); and sensor means (114) forming a portion of said driver (114 are connected to the driver via attachment area 110) and in slidable contact with an exterior surface of said cartridge barrel (114 slide along the exterior surface of 18), the sensor means arranged to detect an end profile of the barrel and automatically trigger activation of the shield driver means upon detection (Fig. 9 discloses that the end portions of 114 when they hit the end surface profile of the barrel at 102, they automatically disengage the shield portion 68 and allow the shield to be automatically activated and extended forward around the needles (Figs. 9-10). (Office Action, pp. 2-3 of August 24, 2009).

Applicants respectfully disagree for the following reasons.

The Cameron device fails to disclose the following element of Claim 1:

sensor means forming a portion of said driver and in slidable contact with an exterior surface of said cartridge barrel, the sensor means arranged to detect an end profile of the barrel and to automatically trigger activation of the shield driver means upon detection.

In particular, the leading edges 114/116 of the actuating rods 110/112 of Cameron do not detect the end profile of the sleeve portion 18 but rather simply contact and deflect the leading edges 68/70 of the shield 30 (see Figs. 8-9 of Cameron). The leading edges 114/116 encounter the

same profile of the sleeve 18 during the actuator rod 110/112 movement due to the uniform shape of the sleeve 18. Thus, there is no “end profile of any barrel” being detected, as specified in Claim 1. See Cameron, col. 9, lines 15-26. As a result, Applicants respectfully submit that Claim 1 is patentable over the art of record.

Claim 2 is dependent upon Claim 1 and is patentable for the same reasons.

Claim 3 is dependent upon Claim 2 and is patentable for the same reasons.

Claim 4 is dependent upon Claim 1 and is patentable for the same reasons. In addition, although the Examiner fails to identify what she considers is the “driver” in Cameron, it appears from her comments to Claim 1 (“...said driver (114 are connected to the driver via attachment area 110)”), the driver of Cameron is the plunger assembly 12. If so, the driver 12 of Cameron does not carry the shield driver means to a shield activation point. As can be seen in Figs. 8-9 of Cameron, the spring 106 and thrust ring 104 do not move when the plunger 12 is displaced downward. Only when the shield ends 68/70 are displaced, does the shield driver means move.

Claim 5 is dependent upon Claim 4 and is patentable for the same reasons. Furthermore, the spring 106 of Cameron is not fixed at its proximal end to the driver but rather to an upper flange 40 of the housing 24 (see Cameron, col. 8, lines 48-49) nor is it attached to the driver at its distal end but rather it is attached to the thrust ring 104 of the shield at its distal end (see Cameron, col. 8, lines 49-50).

Claim 6 is dependent upon Claim 1 and is patentable for the same reasons. Furthermore, the plunger 12 of Cameron does not receive additional driving force from the spring 106 during the plunger’s displacement.

Claim 7 is dependent upon Claim 6 and is patentable for the same reasons. Furthermore, the spring 106 of Cameron is not fixed to plunger 12 at its distal end but is rather fixed to the thrust ring 104.

Claim 8 is dependent upon Claim 1 and is patentable for the same reasons. In addition, according to the Examiner in her comments to Claim 1, she identifies reference number 114 of Cameron as a sensor means. However, there is no discussion in Cameron about either of the leading edges 114/116 of the actuating rods 110/112 being deformable. And if they were deformable that would defeat the purpose of being able to deflect the shield ends 68/70.

Claim 9 is dependent upon Claim 8 and is patentable for the same reasons.

Claim 10 is dependent upon Claim 8 and is patentable for the same reasons.

Claim 11 is dependent upon Claim 1 and is patentable for the same reasons.

Claim 18 is dependent upon Claim 1 and is patentable for the same reasons.

Claims 12, 13 and 15-17 are rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by U.S. Patent Publication No. 2002/0193746 (Chevallier, hereinafter "Chevallier").

In particular, the Examiner states:

Chevallier discloses an injection device (Figs. 1-5 for example) comprising: a cartridge barrel (10), said barrel arranged to contain a stopper (not labeled with a reference number in Fig. 1) and a fluid therein and where said barrel has a second open end (near 20) and a second end having a radial flange adjacent to the second end (radial flange 20, also see Figs. 2-4); a needle cannula having a sharp distal end (14) and a second open end, the fluid being in communication with said needle second end; a housing (16) surrounding said barrel, said housing having a distal open end (near 16a) adjacent the needle and a proximate end having a flange receiving the radial flange of the barrel (proximal end has flange 24 as seen in Figs. 3 and 4); a shield releasably retained by the housing (19), said housing and said shield arranged in a sliding relationship with the shield positioned primarily within the housing until release (Figs. 1-5); a driver (12), said driver positioned partially within said housing, said driver equipped with at least one deformable side arm (portion 13 is being interpreted as the deformable side arm as this clearly is a side arm, and since the device is made of plastic, it has some degree of deformability. Furthermore, Applicant has not claimed what the side arm must deform in response to contacting) sensing the end of the barrel (Fig. 5 discloses that 13 contacts and senses the end of the barrel at 20 at which point the

shield is automatically triggered. Please note that Applicant has not claimed which end of the barrel that the side arm must sense), said driver slidably located within said housing for moving the stopper forward (Figs. 1-5); and a biasing spring (34), said biasing spring further adapted to bias the shield to automatically cover the needle after said driver detects the end of the barrel (Fig. 5).

Applicants respectfully disagree for the following reasons.

As amended, Claim 12 now specifies that the at least one deformable side arm senses the distal end of the barrel. In contrast, the Chevallier device does not detect any portion of the distal end of the syringe body 10; rather, it is the contact of the axial rims 13A/13B of the plunger head 13 with the tongues 30/32 at the proximal end of the device that releases the spring 34 to deploy the inner sheath 18. Thus, for all of these reasons, Claim 12 is now patentable over the art of record.

Claim 13 is dependent upon Claim 12 is patentable for the same reasons. Furthermore, the driver (the Examiner identifies as piston 12) in Chevallier does not carry the spring 34. As can be seen in Figs. 1-2, as the piston 12 is displaced the spring 34 remains stationary. It is only when the axial rims deflect the tongues 30/32 that the spring 34 moves.

Claim 15 is dependent upon Claim 12 is patentable for the same reasons.

Claim 16 is dependent upon Claim 15 and is patentable for the same reasons.

Claim 17 is dependent upon Claim 15 and is patentable for the same reasons.

Claim 14 is rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Chevallier. In particular, the Examiner asserts that Chevallier discloses the device substantially as claimed including one sensor element (13) but does not disclose two sensor elements. The Examiner then asserts that it would have been obvious to one skilled in the art to have modified

Application Serial No. 10/566,226
Attorney Docket No. S2082/20003
Amendment Dated November 20, 2009

Chevallier by adding a second sensing element since it has held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

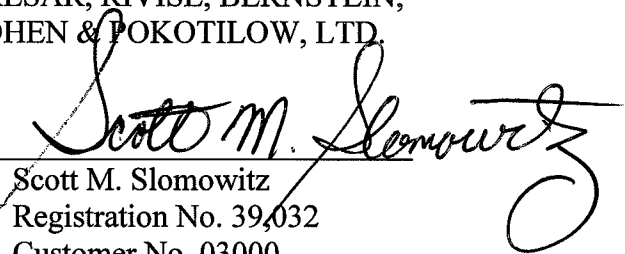
Applicants respectfully disagree for the following reasons. Claim 14 is dependent upon Claim 12 and is patentable for the same reasons. Moreover, Claim 14 has been amended to be consistent with the amendments made in Claim 12. Thus, as now specified, Chevallier does not teach or suggest the sensing of the distal end of the barrel with either one or two sensing elements.

In view of all of the art previously considered and overcome by all of the foregoing responses to Office Actions, including the present Office Action, Applicants respectfully submit that Claims 1-18 are now in condition for allowance and that this application be moved to allowance as soon as possible.

Respectfully submitted,

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Application Serial No. 10/566,226
Attorney Docket No. S2082/20003
Amendment Dated November 20, 2009

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